IN THE CLAIMS

Please amend claims 51, 53, 55, 58-61, 63-64, 106-108, 110, and 112 as follows below.

Please cancel claims 52, 54, 56, 62, 109, and 111 without prejudice.

Please add new claims 113-118 as follows below.

The following listing of claims replaces all prior versions, and listings, of claims in the application:

Marked Up Listing of Pending Claims:

1-50. (Cancelled)

51. (Currently Amended) Data [[A data]] signal propagation in an optical network equipment for increased reliability, comprising:

a first data signal embodied in a first optical signal on a first optical path in the optical network equipment;

the first data signal simultaneously embodied in a second optical signal on a second optical path in the optical network equipment;

~~wherein the first optical signal and the second optical signal are substantially similar; and~~

wherein the first optical path is different from the second optical path;

wherein if the first optical path should fail then the second optical signal on the second optical path can provide continued first data signal propagation in the

optical network equipment, or if the second optical path should fail then the first optical signal on the first optical path can provide continued first data signal propagation in the optical network equipment.

52. (Cancelled)

53. (Currently Amended) The data signal propagation of claim 51 further comprising:

the first data signal simultaneously embodied in a third optical signal on a third optical ~~signal~~ path in the optical network equipment;

~~wherein the third optical signal is substantially similar to the first and second optical signals; and~~

wherein the third optical path differs from the first and second optical paths; and

wherein if the first and second optical paths should fail then the third optical signal on the third optical path can provide continued first data signal propagation in the optical network equipment.

54. (Cancelled)

55. (Currently Amended) The data signal propagation of claim [[53]] 51 further comprising:

a [[the]] second data signal embodied in a fourth optical signal on a fourth optical ~~signal~~ path in the

optical network equipment, the second data signal differing from the first data signal;

the second data signal simultaneously embodied in a fifth optical signal on a fifth optical path in the optical network equipment;

~~wherein the fourth optical signal is substantially similar to the first, second and third optical signals; and~~

wherein the fourth optical path differs from the fifth ~~first, second and third~~ optical ~~paths~~ path; and

wherein if the fourth optical path should fail then the fifth optical signal on the fifth optical path can provide continued second data signal propagation in the optical network equipment, or if the fifth optical path should fail then the fourth optical signal on the fourth optical path can provide continued second data signal propagation in the optical network equipment.

56. (Cancelled)

57. (Original) The data signal propagation of claim 51 wherein

the optical network equipment is an optical bridge, an optical router, an optical cross-connect switch, an optical hub, an optical node, an optical concentrator, or other networking equipment accepting a data signal embodied in an optical signal.

58. (Currently Amended) A method of increasing reliability in optical network equipment, the method comprising:

converting an input optical signal in the optical domain into an electrical signal in the electrical domain;

concurrently converting the electrical signal in the electrical domain into a first optical signal and a second optical signal in the optical domain ~~, the first and second optical signals being substantially similar~~;

routing the first optical signal and the second optical signal respectively over two differing optical paths in the optical network equipment;

similarly processing the first optical signal ~~signals~~ and the second optical signal ~~similarly~~ through the optical network equipment to generate a first processed optical signal and a second processed optical signal respectively; and

selecting the stronger signal of either the first processed optical signal or the second processed optical signal as the output optical signal of the optical network equipment.

59. (Currently Amended) The method of claim 58 wherein

~~the converting of the input optical signal in the optical domain into the electrical signal in the electrical domain and the converting of~~ the electrical signal in the

electrical domain is simultaneously converted into the first optical signal and the second optical signal in the optical domain ~~are performed substantially at the same time~~ by an electrical to optical converter and an optical splitter.

60. (Currently Amended) The method of claim 58 wherein

the optical network equipment is an optical cross-connect switch ~~and the processing of the first and second optical signals similarly therein includes routing the first and second optical signals respectively over two differing optical paths in the optical cross-connect switch~~.

61. (Currently Amended) The method of claim 58 wherein

the selecting selects the first processed optical signal as the output optical signal because the second processed optical signal has a weaker signal strength than the first processed optical signal.

62. (Cancelled)

63. (Currently Amended) The method of claim [[61]] 58 wherein

the selecting selects the first processed optical signal as the output optical signal because the second processed optical signal is unavailable for selection by the selecting as a result of a failure in an optical path and the processing of the second optical signal failing to generate the second processed optical signal.

64. (Currently Amended) The method of claim [[61]] 63 wherein

the second processed optical signal is unavailable for selection by the selecting as a result of a failed component in the optical path over which the second optical signal is routed in the optical network equipment.

65. (Original) The method of claim 58 wherein

the selecting of either the first processed optical signal or the second processed optical signal includes

converting the first processed optical signal in the optical domain into a first processed electrical signal in the electrical domain,

converting the second processed optical signal in the optical domain into a second processed electrical signal in the electrical domain,

selecting either the first processed electrical signal or the second processed electrical signal as an output electrical signal, and

converting the output electrical signal in the electrical domain into the output optical signal in the optical domain.

66-105. (Cancelled)

106. (Currently Amended) The data [[Data]] signal propagation ~~in optical network equipment for increased reliability, comprising:~~ of claim 51, wherein

~~a data signal embodied in a first optical signal on a first optical path in the optical network equipment;~~

~~the data signal embodied in a second optical signal on a second optical path in the optical network equipment;~~

~~wherein the first optical signal and the second optical signal are substantially similar; and~~

~~wherein the first optical path is different from the second optical path; and~~

if [[when]] the first optical path fails, or the second optical path fails, or both the first and second optical paths fail, an alarm signal embodied in an electrical signal from the optical network equipment to signal a failure of an optical path.

107. (Currently Amended) The data signal propagation of claim 106 wherein

if the first optical path should fail,

the alarm signal embodied in the electrical signal from the optical network equipment signals a failure of the first optical path~~, and~~

~~the second optical path provides continued data signal propagation in the optical network equipment~~.

108. (Currently Amended) The data signal propagation of claim 106 further comprising:

the first data signal simultaneously embodied in a third optical signal on a third optical signal path in the optical network equipment;

~~wherein the third optical signal is substantially similar to the first and second optical signals; and~~

wherein the third optical path differs from the first and second optical paths; and

wherein if both the first and second optical paths should fail,

the alarm signal embodied in the electrical signal from the optical network equipment signals a failure of both the first and second optical paths, and

the third optical signal on the third optical path can provide continued first data signal propagation in the optical network equipment.

109. (Cancelled)

110. (Currently Amended) The data signal propagation of claim 108 further comprising:

the first data signal simultaneously embodied in a fourth optical signal on a fourth optical signal path in the optical network equipment;

~~wherein the fourth optical signal is substantially similar to the first, second and third optical signals; and~~

wherein the fourth optical path differs from the first, second and third optical paths; and

if the first, second and third optical paths should fail,

the alarm signal embodied in the electrical signal from the optical network equipment signals a failure of the first, second and third optical paths, and

the fourth optical signal on the fourth optical path can provide continued first data signal propagation in the optical network equipment.

111. (Cancelled)

112. (Currently Amended) The data signal propagation of claim [[106]] 51 wherein

the optical network equipment is an optical bridge, an optical router, an optical cross-connect switch, an optical hub, an optical node, an optical concentrator, or other

networking equipment accepting a data signal embodied in an optical signal.

113. (New) The data signal propagation of claim 51 wherein

a portion of the first optical path is in a first optical switch fabric of the optical network equipment, and

a portion of the second optical path is in a second optical switch fabric of the optical network equipment.

114. (New) A method of data signal propagation in an optical network equipment for increased reliability, the method comprising:

simultaneously embodying a plurality of data signals respectively into a first plurality of optical signals and a second plurality of optical signals, each data signal of the plurality of data signals being different;

respectively propagating the first plurality of optical signals over a first plurality of optical paths in the optical network equipment;

respectively propagating the second plurality of optical signals over a second plurality of optical paths in the optical network equipment, the second plurality of optical paths differing from the first plurality of optical paths;

wherein if one of the optical paths in the first plurality of optical paths should fail then one of the second plurality of optical signals on a respective one of

the second plurality of optical paths can provide continued data signal propagation in the optical network equipment, and if one of the optical paths in the second plurality of optical paths should fail then one of the first plurality of optical signals on a respective one of the first plurality of optical paths can provide continued data signal propagation in the optical network equipment.

115. (New) The method of claim 114, wherein

a portion of the first plurality of optical paths are in a first optical switch fabric of the optical network equipment, and

a portion of the second plurality of optical paths are in a second optical switch fabric of the optical network equipment.

116. (New) The method of claim 114, wherein

the optical network equipment is an optical bridge, an optical router, an optical cross-connect switch, an optical hub, an optical node, an optical concentrator, or other networking equipment accepting a data signal embodied in an optical signal.

117. (New) The method of claim 114, further comprising:

if any optical path fails in the first plurality of optical paths, signaling a failure of an optical path in

the first plurality of optical paths by transmitting an alarm signal embodied in an electrical signal out from the optical network equipment;

if any optical path fails in the second plurality of optical paths, signaling a failure of an optical path in the second plurality of optical paths by transmitting an alarm signal embodied in an electrical signal out from the optical network equipment; and

if optical paths fail in both the first and second plurality of optical paths, signaling a failure of the optical paths in both the first plurality of optical paths and the second plurality of optical paths by transmitting an alarm signal embodied in an electrical signal out from the optical network equipment.

118. (New) The method of claim 114, further comprising:

if one of the optical paths in the first plurality of optical paths fails, selecting the respective optical signal of the second plurality of optical signals on the respective one of the second plurality of optical paths as an output optical signal for the respective data signal to provide continued data signal propagation in the optical network equipment; and

if one of the optical paths in the second plurality of optical paths fails, selecting the respective optical signal of the first plurality of optical signals on the respective one of the first plurality of optical paths as

the output optical signal for the respective data signal to provide continued data signal propagation in the optical network equipment.